

PTO 09-5322

CC=JP
DATE=19990330
KIND=A
PN=11088948

PORTABLE COMMUNICATIONS TERMINAL AND DATA SUPPLY DEVICE
FOR USE WITH PORTABLE COMMUNICATIONS TERMINALS

移動通信端末用データ供給装置及び移動通信端末

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UNITED STATES PATENT AND TRADEMARK OFFICE
WASHINGTON, D.C. MAY 2009
TRANSLATED BY: SCHREIBER TRANSLATION, INC.

PUBLICATION COUNTRY	(10):	JP
DOCUMENT NUMBER	(11):	11088948
DOCUMENT KIND	(12):	A
PUBLICATION DATE	(43):	19990330
APPLICATION NUMBER	(21):	9237284
APPLICATION DATE	(22):	19970902
INTERNATIONAL CLASSIFICATION	(51):	H04Q 7/38 A63F 9/22
PRIORITY COUNTRY	(33):	
PRIORITY NUMBER	(31):	
PRIORITY DATE	(32):	
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DESIGNATED CONTRACTING STATES	(81):	
TITLE	(54):	PORTABLE COMMUNICATIONS TERMINAL AND DATA SUPPLY DEVICE FOR USE WITH PORTABLE COMMUNICATIONS TERMINALS
FOREIGN TITLE	[54A]:	移動通信端末用データ供給装 置及び移動通信端末

[SCOPE OF PATENT CLAIMS]

[CLAIM 1]

A data supply device for use with a mobile communications terminal characterized by the fact that: it is freely attachable and detachable from a mobile communications terminal unit (1) of the portable type provided with a display (3) and number keys (2, 2...); it is furnished with a storage device (17) that stores data that must be supplied to the mobile communications terminal unit (1), data pertaining to the number keys (2, 2...) of the mobile communications terminal unit (1), and display data in response to data pertaining to said number keys (2, 2...); and it can display, on the display device (3) of the mobile communications terminal unit (1), display data in response to input to the number keys (2).

[CLAIM 2]

A data supply device for use with a mobile communications terminal as described in Claim 1 further comprising an operation processing section (18) that processes data from said storage device (17) and supplies it to the mobile communications terminal unit (1).

[CLAIM 3]

A mobile communications terminal comprising a mobile communications terminal unit (1) of the portable type furnished with a display device (3) and number keys (2, 2...) wherein said mobile communications terminal:

is furnished with a storage device (17) that stores data that must be supplied to the mobile communications terminal unit (1), data pertaining to the number keys (2, 2...) on the mobile communications terminal unit (1), and display data in response to data pertaining to said number keys (2, 2...);

is connected to the mobile communications terminal unit (1); and

can display, on the display device (3) of the mobile communications terminal unit (1), display data in response to input to said number keys (2).

[CLAIM 4]

A mobile communications terminal as described in Claim 3 further comprising an operation processing section (18) that processes data from said storage device (17) and supplies it to the mobile communications terminal unit (1).

[DETAILED DESCRIPTION OF THE INVENTION]

[0001]

[TECHNICAL FIELD OF THE INVENTION]

The present invention pertains to a data supply device that can add game and other special functionality to a terminal for mobile communications use, as well as to a mobile communications terminal to which a data supply device has been added.

[0002]

[PRIOR ART]

Figure 3 shows an example of a conventional portable game device. In this prior art example, the game device unit 11 has a display 13 and operation buttons 12. A cassette-type recording medium 14 on which is stored a game program is inserted into this game device 11. The game is operated when a read-in device, which is built into the game device unit 11, reads in data needed to start the game from the storage device 14. Now some games constitute games where people compete against each other. For these kinds of games, by connecting a companion game device unit 11, then the other person can compete using the companion game device unit 11.

[0003]

In addition, in order to be able to handle competition games, an infrared communications device is appended to the game device unit 11, and then it is possible to compete during game playing using a second, companion game device unit 11.

[0004]

[ISSUES TO BE RESOLVED BY THE INVENTION]

However, in order to run a plurality of games in succession, the user must retain a plurality of storage media 14. Now because the storage media 14 are of the cassette type and are therefore large, the above-described game device unit 11 ends up being bulky.

[0005]

Moreover, with respect to the fact that a companion game device 11 must be connected using cables, the problem is not simply that connecting devices by cable is troublesome, but also that operability is bad when a cable is connected between game device units 11 and 11.

[0006]

In addition, with respect to the fact that an infrared communications device is appended to the game device unit 11, because infrared beams can only communicate over a short distance of approximately 1 - 3 m, it is not possible to operate a competition-type game with a person who is at a distant location.

[0007]

The present invention was devised in a way to resolve the problems described above, and aims to provide a data supply device for games and the like that is not bulky, that is small in size, and that can be readily transported.

[0008]

In addition, another issue resolved by the present invention is to be able to provide a data supply device for games or the like that has the function of being able to communicate even from distant locations.

[0009]

[MEANS TAKEN TO RESOLVE THE ISSUES DESCRIBED]

As described in Claim 1, the data supply device for use with a mobile communications terminal and devised to resolve the problems described above in accordance with the

present invention is characterized by the fact that: it is freely attachable and detachable from a mobile communications terminal unit (1) of the portable type provided with a display (3) and number keys (2, 2...); it is furnished with a storage device (17) that stores data that must be supplied to the mobile communications terminal unit (1), data pertaining to the number keys (2, 2...) of the mobile communications terminal unit (1), and display data in response to data pertaining to said number keys (2, 2...); and it can display, on the display device (3) of the mobile communications terminal unit (1), display data in response to input to the number keys (2).

[0010]

Here, the phrase "portable mobile communications terminal" signifies a communications terminal—such as a cellular telephone or a personal handy phone system—that can send and receive data (including audio data). In the case of a cellular telephone, the phrase "number keys" signifies various keys such as those whose purpose is to input numbers or turn the device on and off; and in the case of a communications device other than a kind of telephone, the phrase "number keys" signifies keys needed to perform communications.

[0011]

Because the data supply device can be freely attached to and removed from the mobile communications terminal 1 in this way, when it is not in use, the data supply device can be removed from the mobile communications terminal 1, and the mobile communications terminal 1 can be used solo, sparing the user from any inconvenience.

[0012]

In addition, because it is possible to cause display data to be displayed on the display device 3 of the mobile communications terminal 1 in response to input to the number keys 2, the user can perform operations such as extracting data from the data supply device using number keys on the mobile communications terminal 1—without having to use any other operating keys.

[0013]

In addition, the data supply device for use with a mobile communications terminal in accordance with the present invention may, as described in Claim 2, comprise an operation processing section 18 that processes data from said storage device 17 and supplies it to the mobile

communications terminal unit 1. This means that it is not necessary to process the stored data using the mobile communications terminal unit 1. Consequently, there is no need to physically replace items on the

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mobile communications terminal unit 1 such as by replacing the operation processing device 8 of the mobile communications terminal unit 1.

[0014]

The mobile communications terminal in accordance with the present invention as described in Claim 3 constitutes a mobile communications terminal unit 1 of the portable type furnished with a display device 3 and number keys 2, 2..., characterized by the fact that: it is furnished with a storage device 17 that stores data that must be supplied to the mobile communications terminal unit 1, data pertaining to the number keys 2, 2... on the mobile communications terminal unit 1, and display data in response to data pertaining to said number keys 2, 2...; it is connected to the mobile communications terminal unit 1; and it can display, on the display device 3 of the mobile communications terminal unit 1, display data in response to input to said number keys 2.

[0015]

In this way, because data is stored on the storage device 17 of the data supply device, there is no need to store data from the data supply device on the storage device 7 of the mobile communications terminal unit 1; and consequently, it is ideal because there is no storing of new data on the storage device within the mobile communications terminal unit 1.

[0016]

An operation processing section 18 is provided in such a way as to process data from said storage device 17 and supply it to the mobile communications terminal unit 1, but there is no need to process the stored data using the mobile communications terminal unit 1; and consequently, there is no need to physically replace items on the mobile communications terminal unit 1 such as by replacing the operation processing device 8 of the mobile communications terminal unit 1.

[0017]

[EMBODIMENTS OF THE INVENTION]

An embodiment of the present invention is described below with reference to the figures. Figure 1 is an elevation view that shows the form of an embodiment of a data supply device installed onto a mobile communications terminal unit in accordance with the present invention, and Figure 2 is a block diagram that shows the internal connection configuration of a mobile communications terminal unit and a data supply device in accordance with the present invention.

[0018]

In Figure 1, 1 designates a mobile communications terminal configured as, for example, a cellular telephone; 2 designates number keys for numbers and the like on the mobile communications terminal; and 3 designates a display section made from a liquid crystal display device or the like to display such things as the time or reception status.

[0019]

In addition, 4 designates a data supply device case made from plastic (synthetic resin) or the like. Within said data supply device case 4, as shown in Figure 2, the data supply device 6 in accordance with the present

invention is configured by providing a connection terminal 19 that can connect to an interface connector 9 of the mobile communications terminal unit 1; a storage device 17 such as, for example, ROM, that stores in advance a certain program such as a game; and an operation processing device 18 such as, for example, a CPU, for the purpose of processing data from said storage device 17. In this way, because the data supply device 6 is configured in such a way as to be small-sized, as shown in Figure 1, the data supply device case is also configured to be small enough to fit into one's hand.

[0020]

Moreover, in addition to storing a program such as a game, the storage device 17 of the data supply device 6 also has pre-stored data pertaining to what to display on the display device 3 in response to input from the number keys 2, 2....

[0021]

In addition, as shown in Figure 1, tags 5 that give the names of programs stored in the data supply device 6 are affixed on the surface of the data supply device case

4. Next, attaching the mobile communications terminal unit 1 to the data supply device 6 completes the mobile communications terminal configured from a mobile communications terminal unit 1 and a data supply device 6.

[0022]

Next, the method for supplying data for a mobile communications terminal unit 1 with attached data supply device 6 is explained with reference to Figure 2. This embodiment is used to explain a case where a game program is stored on the storage device 7 as a special function outside of communications. First, the electrode terminal of the data supply device 6 is connected to the interface connector 9 of the mobile communications terminal 1. By pressing a particular number key 2 (for example, the POWER ON button), the game is started. In this way, the data supply device is mounted on the mobile communications terminal unit 1, and without having to have other operating keys on the mobile communications terminal unit 1 for the purpose of performing operations, one may perform such operations as extracting data from the data supply device using number keys already existing on the mobile communications terminal unit 1.

[0023]

In addition to programs such as games as described above, display data in response to number keys 2, 2... constituting information on how the display device 3 should respond to input on the number keys 2 from the operator is set in advance on the storage device 17 of the data supply device 6. Moreover, in response to number keys 2 that the operator presses, the display data stored in advance on the display device 17 is sent to the operation processing device 8 of the mobile communications terminal unit 1, and the display data is displayed on the display device 3 of the mobile communications terminal unit 1.

[0024]

For example, it is possible to ordain #2 of the number keys 2 for moving upward, #6 for moving rightward, #4 for moving leftward, and #8 for moving downward. Consequently, by manipulating the above number keys 2, it is possible cause game characters and the like to move on the display device 3 in response to operations performed by the operator.

[0025]

While the game is being played in this way, the supply of data to the mobile telephone--namely, the supply of data by the data supply device 6 to the mobile communications terminal unit 1--has no bearing on the device's functions as a mobile telephone. In other words, telephone directory data stored in the display device 7 of the mobile communications terminal unit 1 is not lost because data was supplied from the data supply device 6. Rather, the data needed for times when the device is used as a phone is stored in the storage device 7. Because the stored data can be read out to the operating processing device 8 in response to operations of the number keys 2 by the operator, mobile telephone functions can be activated.

[0026]

For example, by pressing the CALL key from among the number keys 2, it is possible to use the device as a telephone even if one is in the middle of a game. In addition, when receiving a call one can receive communications at any time without having to operate a special number key 2.

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[0027]

Consequently, when playing a game on one's own, it is possible to use the device as a cell phone, and one is not impeded from using cell phone functions owing to the game.

[0028]

In addition, when not using the data supply device 6, by detaching the data supply device 6 from the mobile communications terminal unit 1, it is possible to use the mobile communications terminal unit 1 on its own, without being hindered in any way by appended devices.

[0029]

Thus, thanks to the data supply device in accordance with the present embodiment, by simply mounting the data supply device onto the mobile communications terminal unit, the user can use games and other data stored on the data supply device without having to make any physical changes or additions to the internals of the mobile communications terminal unit. Moreover, the data supply device is designed to be small enough in scale that it can be mounted onto a mobile communications terminal unit in such a way that the embodiment is something one can easily take along when going out. Thus, one is not burdened with the unwieldiness of having to retain a variety of data supply devices.

[0030]

In addition, thanks to the data supply device in accordance with the present embodiment, because programs within the data supply device are not kept in the operation processing device of the mobile communications terminal unit, it is possible to use the same program regardless of the type of mobile communications terminal unit used. Consequently, development costs can be kept low, and the cost of the data supply device itself can also be reduced.

[0031]

Further still, simply by virtue of the fact that the data supply device provides data to the mobile communications terminal unit, because this has no direct bearing on communication, the user can send or receive calls even when playing a game.

[0032]

In the embodiment described above, a game was played using the mobile communications terminal unit 1 on one's own while employing the data supply device 6. But by adding prescribed data such as for communications protocols to the program, the device may also be applied to competition

games. In that case, one mounts the data supply device 6 onto the mobile communications terminal unit 1, and by performing communications using telephone or other functions from the mobile communications terminal unit 1 to a person with whom one wants to compete on a separate mobile communications terminal unit 1, one is able to perform a competition game 1 without needing any other device.

[0033]

Moreover, in the embodiment described above, the explanation given was of a case where the program for the game was stored in a storage device within the data supply device; but the program for the purpose of adding special functions stored in the storage device of the data supply device is not constrained to games, and may, for example, constitute a database such as a dictionary. In that case, one can search desired data from the database by using certain number keys, and cause that data to be displayed on the display device of the mobile communications terminal.

[0034]

In addition, in the embodiment described above, a mobile phone was used as the portable-type mobile

communications terminal unit. However, other mobile communications terminal units such as personal handy phone systems (PHS) may also be used.

[0035]

Further still, because the data supply device simply supplies data to the mobile communications terminal unit, it has no direct bearing on communications. Accordingly, the user may send or receive calls even while he or she is playing a game.

[0036]

In addition, as another embodiment of the data supply device, it is possible to establish a data supply device that provides a storage device and electrode terminal but does not have a built in operation processing device. In that case, the operation processing device of the mobile communications terminal unit must be exchanged with a designated operation processing device, but because the data supply device is equipped with a storage device, there is no need to switch out the storage device of the mobile communications terminal unit. As a result, games can be played without sacrificing the communications functions of the telephone.

[0037]

[EFFECTS OF THE INVENTION]

Thanks to the data supply device of the present invention, by simply mounting the data supply device onto a mobile communications terminal unit, the user can use data stored on the data supply device such as a game without having to add any physical device to the mobile communications terminal unit. In addition, the data supply device can be made small enough in size as to be attached to the mobile communications terminal unit, and consequently, even if one retains a plurality of types of data supply devices, the device will nonetheless be easy to take along, and will not be unwieldy.

[BRIEF DESCRIPTION OF THE DRAWINGS]

Figure 1 is an elevation view that shows the form of an embodiment of a data supply device installed onto a mobile communications terminal unit in accordance with the present invention.

Figure 2 is a block diagram that shows the internal connection configuration of a mobile communications terminal unit and a data supply device in accordance with the present invention.

Figure 3 is an elevation view that shows an example of a conventional game device.

[DESCRIPTION OF THE SYMBOLS]

1 mobile communications terminal unit

2 number keys

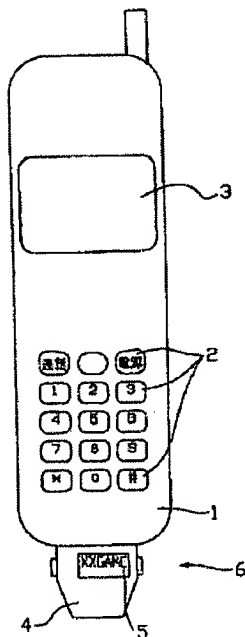
3 display device

17 storage device

18 operation processing device

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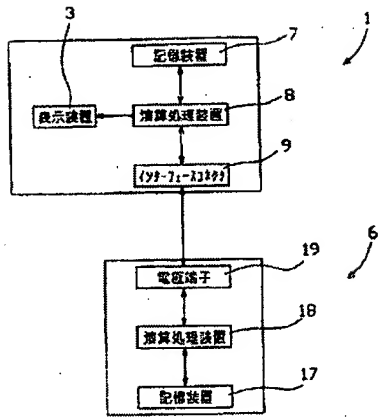
[FIGURE 1]



2 Call

Power

[FIGURE 2]



3 display device

7 storage device

8 operation processing device

9 interface connector

17 storage device

18 operation processing device

19 electrode terminal

[FIGURE 3]

